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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,134	05/10/2006	Terry Victor Clapp	2143.000200/KDG	8858
23720 7590 02/05/2009 WILLIAMS, MORGAN & AMERSON 10333 RICHMOND, SUITE 1100 HOUSTON, TX 77042			EXAMINER CHU, CHRIS H	
			ART UNIT 2874	PAPER NUMBER
			MAIL DATE 02/05/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/564,134	Applicant(s) CLAPP, TERRY VICTOR	
	Examiner CHRIS H. CHU	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-25 and 37-44 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-25 is/are allowed.
- 6) ☒ Claim(s) 37-44 is/are rejected.
- 7) ☒ Claim(s) 37 and 41 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/08, 11/08</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The prior art documents submitted by applicant in the Informational Disclosure Statements filed on October 27, 2008 and November 25, 2008 have all been considered and made of record (note the attached copy of form PTO-1449).

Response to Amendment

Applicant's Amendment filed October 24, 2008 has been fully considered and entered.

Claim Objections

In claim 37, the limitation "non-waveguiding" in regards to the electro-optic phase adjusters is objected to since applicant's own slotted phase adjusters still optically couple signals and hence are still considered to be waveguiding media. For the purposes of examination, this limitation will not be considered in said claim as well as any subsequent claims.

In claim 41, the limitation "a second waveguide optically coupled to the optical multiplexer" is objected to first because there is no antecedent basis for the optical multiplexer and second because the optical multiplexer is in a different embodiment from the filter described in claim 37 including a mirror and no embodiment has been disclosed by the applicant featuring a mirror in conjunction with a multiplexer that has a

separate waveguide to which it is coupled. For the purposes of examination, said limitation will not be considered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 37-40, 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doerr (6,393,173).

Regarding claims 37, 43 and 44, Doerr discloses an electro-optically tunable optical filter, comprising a first optical transmission medium (16 in Fig. 1); a second optical transmission medium (14); a first optical coupler (10) for coupling portions of the first and second optical transmission media; an optical demultiplexer (110) coupled to the second optical transmission medium; a plurality of electro-optic phase adjusters (120-1 to 120-n) optically coupled to the optical demultiplexer; a mirror (160) optically coupled to the phase adjusters and a quarter wave plate (150) adjacent the mirror and between the mirror and the phase adjusters.

Regarding claims 37, 43 and 44, Doerr teaches the claimed invention except for specifically stating a control unit coupled to the phase adjusters. However, the signals sent to the phase adjusters 120-1 to 120-n disclosed by Doerr must be controlled

somehow and one having ordinary skill in the art would have found it obvious to connect all the phase adjusters to a single control unit for the purpose of simplifying the control process. Further, it would have been obvious to have the control unit capable of providing at least one signal indicative of a selected phase change such that the interferometer produces a filtered transfer function in order to impart any desired phase shift to the incoming signal.

Regarding claim 38, Doerr discloses the first and second optical transmission media to be waveguides in Fig. 1.

Regarding claim 39, Doerr discloses the interferometer formed on a planar waveguide platform in Fig. 1 and column 2, lines 16-23.

Regarding claim 40, Doerr discloses the planar waveguide platform to be a semiconductor platform in the abstract.

Claims 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doerr (6,393,173) in view of Clapp (EP 1,065,534).

Regarding claim 41, Doerr teaches the claimed invention except for specifically stating the details of the phase adjusters. Clapp discloses phase adjusters comprising first and second optical transmission means (32 in Fig. 3), a slot (36) disposed adjacent to the transmission means being adapted to receive an electro-optically active element, and at least one electrode (35) proximate the slot adapted to provide a portion of a variable electric field within the slot. Since both inventions relate to electro-optic phase adjusters, one having ordinary skill in the art at the time the invention was made would have found it obvious to use the phase adjusters disclosed by Clapp in the tunable

Art Unit: 2874

optical filter disclosed by Doerr for the purpose of providing a phase adjuster with enhanced sensitivity.

Regarding claim 42, Clapp discloses the electro-optically active element to be a polymer-dispersed liquid crystal in paragraph 0021.

Allowable Subject Matter

Claims 12-25 are allowed for reasons stated in the following Response to Arguments.

Response to Arguments

Applicant's arguments, with response to claims 12-25 have been fully considered and are persuasive. As such, rejections to said claims have been withdrawn.

Applicant's arguments, with response to claims 37-44, have been considered but are moot in view of the new grounds of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chris H. Chu whose telephone number is 571-272-8655. The examiner can normally be reached on 8:30 AM - 5:00 PM Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Uyen-Chau Le can be reached on 571-272-2397. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general or clerical nature should be directed to the Technology Center 2800 receptionist at telephone number (571) 272-1562.

Chris H. Chu
/Chris Chu/
Patent Examiner
December 31, 2008

/Uyen-Chau N. Le/
Supervisory Patent Examiner, Art Unit 2874